History of the World in Just 5 Slides, Part 1

- ARPANET
  - Implemented in late 1960’s by ARPA (Advanced Research Projects Agency of DOD)
  - Networked computer systems of a dozen universities and institutions with 56KB communications lines
  - Grandparent of today’s Internet
  - Intended to allow computers to be shared
  - Real benefit?
History of the World in Just 5 Slides, Part 2

• ARPA’s goals
  – Allow multiple users to send and receive info at same time
  – Use packet switching technique
    • Digital data sent in small packages called packets
    • Packets contained data, address info, error-control info and sequencing info
    • Greatly reduced transmission costs of dedicated communications lines
  – Operate without centralized control
    • If portion of network fails, remaining portions still able to route packets

• Huge variety of networking hardware and software appeared
  – Development of TCP/IP protocols enabled interoperation

History of the World in Just 5 Slides, Part 3

• Internet initially just for universities and research labs
  – Military became big user
  – Next, government decided to access Internet for commercial purposes

• Internet traffic grew
  – Businesses spent heavily to improve Internet
    • Better service their clients
  – Fierce competition among communications carriers and hardware and software suppliers
  – Result
    • Bandwidth (info carrying capacity) of Internet increased tremendously
    • Costs plummeted
History of the World in Just 5 Slides, Part 4

- WWW
  - Allows computer users to locate and view multimedia-based documents
  - Introduced in 1990 by Tim Berners-Lee

- W3C – www.w3.org
  - Founded in 1994 by Tim Berners-Lee
    - Devoted to developing non-proprietary and interoperable technologies for the World Wide Web and making the Web universally accessible
  - Standardization
    - W3C Recommendations: technologies standardized by W3C
      - include Extensible HyperText Markup Language (XHTML), Cascading Style Sheets (CSS) and the Extensible Markup Language (XML)
    - Document must pass through Working Draft, Candidate Recommendation and Proposed Recommendation phases before considered for W3C Recommendation

History of the World in Just 5 Slides, Part 5

- Web 2.0
  - Users create the content
    - Facebook
    - Wikipedia
    - del.icio.us
    - Amazon – how?
  - Tagging
  - Richer user interfaces
    - Google Maps vs. original Mapquest
    - AJAX
  - And more… see IT452!
Web Markup Languages

- HTML 2.0
- HTML 4.01
- XHTML 1.0
- XHTML 1.1
- XHTML 2.0
- HTML 5

HTML vs. XHTML
**XHTML: Differences from HTML (part 1)**

- Documents must be “well-formed”
  1. All start tags must be closed
  2. All tags must properly nest

**XHTML: Differences from HTML (part 2)**

- Tag and attribute names must be lowercase

- Attribute values must be double-quoted

- **Use id instead of name**
  
  `<a name=bottom> Stuff </a>`

  `<a id="bottom"> Stuff </a>`
  
  `<h1 id="ships"> ... </h1>"
XHTML: Differences from HTML (part 3)

• Many “style” tags/attributes removed

http://webdesign.about.com/od/htmlxhtmltutorials/l/bltags_deprecat.htm
• What to do?

XHTML: Differences from HTML (part 4)

• Frames allowed in XHTML 1.0…
  But removed in XHTML 1.1

• A few more technical differences…
  – See http://www.w3.org/TR/2000/REC-xhtml1-20000126/#diffs
Exercise #1 – Correct any invalid XHTML syntax

<?xml version = "1.0" encoding="utf-8" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
    "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<!-- An example file -->
<!-- Our first Web page -->
<html xmlns = "http://www.w3.org/1999/xhtml">
<body>
<h1>Welcome to <b>IT350!</b> </h1>
<h2>Today’s Agenda </h2>
<li>XHTML</li>
<li>JavaScript</li>
</body>
</html>

Exercise #2 – Correct any invalid XHTML syntax

<?xml version = "1.0"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
    "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns = "http://www.w3.org/1999/xhtml">
<title>Internet and WWW How to Program - Welcome</title>
<body>
<img src = "xmlhtp.jpg" height = "238" width = "183" >
<h1 align="center">Under construction</h1>
</body>
</html>
Exercise #3 – Correct any invalid XHTML syntax

```xml
<?xml version = "1.0"?>

<html xmlns = "http://www.w3.org/1999/xhtml">
  <head>
    <title>Internet and WWW How to Program - Links</title>
  </head>
  <body>
    <b> <h1>Here are my favorite links</h1> </b>
    <p><A href = "http://www.yahoo.com">Yahoo!</A></p>
    <p><A mailto = "webmaster@ussmichigan.org">Webmaster</A></p>
  </body>
</html>
```

Exercise #4 – Correct any invalid XHTML syntax

```xml
<?xml version = "1.0"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
  "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns = "http://www.w3.org/1999/xhtml">
  <head>  <title>Best features of the Internet</title>  </head>
  <body>
    <ul>
      <li>Meet new people from around the world.</li>
      <li>Access to new media as it becomes public: </li>
      <ul>
        <li>New games</li>
        <li>New applications & software</li>
      </ul>
      <li>Search engines</li>
    </ul>
  </body>
</html>
```